City of Chattanooga

Fire Department

Management Study

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Introduction

In June of 1997, the City of Chattanooga asked The University of Tennessee's Municipal Technical Advisory Service to conduct the first comprehensive study of the Chattanooga Fire Department. After discussions with the city's administration, it was agreed this study would examine the following areas:

- Staffing as it pertains to the ratio of command personnel to regular fire fighters
- Staffing as it pertains to adequate manning of fire apparatus per shift
- Management strategies as they pertain to the structure of the department
- Equipment placement
- Equipment replacement (vehicle replacement schedule)
- Station location
- Regional cooperation issues
- Training
- Non-traditional services
- General operational issues, i.e. fire department community involvement,
- etc.

The methodology used in conducting this study included interviews with the Chief, the Deputy Chiefs, the Assistant Chiefs for Divisions, and the District Chiefs. Staffing rosters, actual manning history, incident history, station location, apparatus placement, organizational charts, apparatus maintenance history, the city's charter and various agreements and/or contracts were also collected and examined. In addition to these efforts, an on-site inspection was conducted for most of the fire stations.

This study was conducted by Ray Crouch, MTAS Fire Management Consultant and Mike Tallent, MTAS Assistant Director. It is important to acknowledge and thank Chief Jim Coppinger and the Chattanooga Fire Department for the excellent cooperation and assistance they provided in the conduct of this study and the preparation of this report.

Executive Summary

This comprehensive study of the Chattanooga Fire Department has reviewed the department's station location, its staffing, and organizational structure. Its place within the region has been reviewed from the standpoint of interlocal cooperation. Such issues as fire apparatus replacement, training, emergency medical care, equipment specifications and community enhancements have also been studied. In each case the current conditions have been reviewed and recommendations have been made.

The department's fire station service districts have incrementally become overlapped and strategically out of line. Recommendations focused on reducing the overlapping and misalignment with minimum disruption. This has resulted in recommendations to consolidate stations 1, 2 and 7, the repositioning of station 15 and the closure of station 11. This reduces the total number of stations from 20 to 17. Recommendations also include replacing the engine/pumpers with Quints (pumper/ladder combined units) at stations 8, 17, 20, 21, and 22 and to develop a uniform model fire station design.

Under the current staffing design, the department is significantly understaffed. In fact, based upon the data reviewed, it has seldom ever reached adequate staffing on any given day. Recommendations include redesigning the minimum staffing requirements to a more realistic number that is professionally acceptable, adopting a strict policy for managing leave and creating 13 new fire fighter positions.

Chattanooga's Fire Department structure is right in line with the traditional structure of the 1950's and 60's, with the additional complicating factor of 1.06 officers to every 1 fire fighter. Recommendations have addressed these problems with a career ladder that creates a supervisor to fire fighter ratio of 1 supervisor to every 3 fire fighters, which is the industry norm for fire protection. The recommendation on organizational structure focuses on creating 3 geographic based fire suppression districts commanded by 3 teams of 2 district commanders, truly functioning in a management capacity for the district rather than as a shift supervisor. These district commanders would be equivalent to a fire chief in a city of 30,000 to 50,000 population and would have total responsibility for all activities within their districts.

Although the Chattanooga Fire Department has functioned as an island unto itself for many years, it is surrounded by other fire departments that have been functioning cooperatively for the past 10 to 20 years. In terms of interlocal cooperation among political jurisdictions, the fire service has been a leader for many years. It was recognized early on by the fire service, that circumstances and disasters could quickly exceed the ability of any department to have the physical and financial resources to adequately be prepared and to adequately respond to such incidents. To address this situation, this study has recommended that Chattanooga become an

active member of the Tri-State Mutual Aid Association and to also enter into separate automatic aid agreements with the cities of East Ridge and Red Bank. Both automatic aid agreements would be in the best financial interest of Chattanooga and the other cities.

Chattanooga's fire apparatus fleet has not been replaced on a timely basis and has become very old. The city is making commendable efforts to correct this problem by buying new apparatus in large groupings, however, without a replacement schedule, this problem may only be transferred to future administrations. This study has recommended a structured fire apparatus replacement program, that makes replacements on a scheduled basis and levels the cost of replacement now and even more so for the future. It removes apparatus replacement from the political competition that often accompanies the capital budgeting process and places it in a purely administrative environment.

Chattanooga is partially participating in an emergency medical care program. It is faced with a decision of whether to get out or to continue. This study not only recommends it continue but that it take steps to make substantial improvements in the service it delivers and to lessen the financial "loss" associated with this service. Recommendations include: (1) all fire fighters being trained as first responders; (2) that in order to move up the career ladder a fire fighter must be trained as an emergency medical technician; and (3) each station on each shift should have a fire fighter trained as a paramedic. This should substantially improve a vital service to the taxpayer, while improving the productivity within the fire department. To mitigate the cost of this program, recommendations include financial reimbursement from the ambulance provider. If the current provider is not receptive to this recommendation, there are other providers that would be willing to pay the city for the right to provide ambulance service in the city.

Training within the department has not been an afterthought, but it has not been the top priority either. This study recommends a new emphasis be placed on the value of training and that high quality training become a standard expectation within the department. Recommendations stressed an emphasis be placed on supervisory and managerial training, which is currently almost non-existent.

This study strongly recommends the development of an Explorer Post program. This will be a great service to the youth within the community. It will enhance the department's relationship with the community and will cultivate new recruits for the department.

This study also recommends the department develop standard pumper specifications. This should improve the purchase price on new equipment, reduce maintenance costs by standardizing parts and facilitate training and operation of the equipment.

Chapter 1 - Fire Station Location

With all the issues this study is addressing, none is more important than station location. The location of fire stations within the city determines the number of stations that are required, which in turn determines the amount of required apparatus and accompanying staffing for that apparatus. Therefore, this chapter on station location is the foundation for almost all of the recommendations within this study.

Regardless of whether or not they are conducting a comprehensive study, cities should periodically review the location of their fire stations. Over time changes in demographics, land use, transportation system and construction of additional stations can result in certain stations becoming virtually ineffective. Unfortunately most cities conduct such reviews only during times of growth (annexations) or during economic downturns and then the focus is on reducing costs, not optimizing coverage. Ideally a city should review its station location every ten years, regardless of growth or the condition of the economy. These are vital factors and have been considered in this study, but they are not the primary factors behind our recommendations. Paramount for all station locations is to view the total fire service area, which means looking at the whole city. Every station should be viewed in its relationship to all adjacent stations and to the total city.

The single most important factor in station location is placing stations so they can adequately respond to fire calls in response times that meet or exceed the requirements established by the Insurance Services Office (ISO). The ISO is a rating agency, whose ratings are the foundation upon which all fire insurance premiums are based. In order to have consistent evaluation criteria, the ISO established fixed response times from a fire station, which they have ultimately translated into a one and one-half (1&1/2) mile radius from the fire station for engines and a two and one-half mile (2 & ½) radius for ladders. This area is commonly referred to as the fire service district and will be used in that context in this report.

Chattanooga currently operates twenty stations, which is two less than its maximum of twenty-two in earlier years. It is not certain that Chattanooga has ever conducted a comprehensive fire station location study, although it has eliminated two stations within the past twenty years. One of those stations (station 3 on Georgia Avenue) was an actual closure. The other station (number 18) was a transfer to the Airport Authority. Station 3 was closed because its service district overlapped other districts (especially station 1) within the area. We are not clear on the logic of transferring Station 18 to the Airport Authority, because the Authority still relies on the Chattanooga Fire Department as its primary source for structure fire suppression.

Table 1 contains a listing of the fire stations, their locations, the year in which they were built and the apparatus at each station. The listing of apparatus is important when the discussion focuses on engine (pumper) and truck (ladder) districts. In reviewing the list of stations, it is easy to see that station growth has occurred simultaneous to the growth of the city. The oldest station (number 9) was built in 1929, and the newest station (number 12) was built in 1997 as a replacement for another 1929 station. The majority of the stations were built in the 1960's and 1970's as the city grew in area and population. The location and structure of these stations vary from Station Number 22, which is a very spacious station with drive-through capability, to Station Number 8, which is a converted house with a built-on bay area. There is no consistency in design, and there certainly is no consistency in land area and street access. It almost appears as if the "cost of property or easy availability of property" were the determining factor on where to place a fire station within a fire service district. All of these conditions are not being raised to disparage prior administrations or departmental leadership, but rather to alert current and future administrations of the problems, so they will not be repeated in the future.

The incremental growth pattern of stations and the various factors that have determined actual station locations has created six distinct issues that need to be addressed. The first issue is an area within the Downtown Business District, in which Stations 1, 2 and 7 are so close together the three service districts overlap to the point they could literally be included into one service district. Map number 1 of current station locations illustrates the service districts of these three stations. This illustration shows 60% of Station 1's service district being across the river and virtually unaccessible; or at least in any reasonable time frame. The map also shows 10% of Station 2's district being across the river and another 70% of Station 2's district being within the service districts of Stations 1 and 7. To further compound the duplication, 70% of Station 7's service area is within Station 2's district.

The second distinct issue is the area in Station 11's service district. Map number 1 shows that Station 11 is built virtually on the city limits line of Chattanooga and East Ridge. This results in 25% of Station 11's service district being in East Ridge and the other 75% is overlapped by Stations 5, 9, 13 and 15. This makes all of Station 11's district either outside the city limits or a duplication of other service districts.

The third distinct issue is Station 15's service district. Map number 1 shows that 70 % of Station 15's service district is within the service districts of Stations 4, 5, and 13.

The fourth distinct issue is not a location problem with a particular station but rather the

placement of the ladder companies within those stations. Under ISO standards, ladder companies have a service district of two and one-half (2 &1/2) miles radius from the fire station. Current placement practices have ladder companies at Stations 1, 5, 13, 14, and 16, as illustrated on Map number 1. This results in significant overlaps of districts 1, 5, and 14, and substantial parts of districts 13, 14 and 16 being outside the city limits. In addition, substantial parts of districts 1 and 16 are across the river and not easily accessible.

The sixth distinct issue is not really an issue today but will become an issue if the city continues to grow in area. The two growth areas are the Ooltewah area northeast along Interstate 75 and the area north along Hixson Pike. Neither of these areas can currently justify a new service district being created. However, if the areas continue to develop and the city continues to grow in either direction, a new station(s) and service district(s) will be required.

Table 1

STATION NUMBER	STATION ADDRESS	BUILT	APPARATUS
1	501 M. L. King Blvd.	1963	1995 Pumper 1991 Quint 1979 Rescue Squad
2	25 W. 20th Street	1959	1976 Pumper
4	2110 Bragg Street	1955	1967 Pumper
5	809 Willow Street	1962	1985 Pumper 1985 Ladder
6	4500 Bonny Oaks Drive	1976	1972 Pumper
7	1600 Central Avenue		1989 Pumper
8	2103 Hickory Valley Road	1974	1985 Pumper
9	3701 Sixth Avenue	1929	1969 Pumper
10	1975 Wisdom	1975	1987 Pumper-Telesquirt
11	150 S. Crest Rd.	1967	1972 Pumper
12	906 Forrest Avenue	1997	1989 Pumper
13	5201 Brainerd Avenue	1977	1995 Pumper 1976 Ladder 1991 Rescue Squad
14	1009 W. 39th Street	1974	1972 Pumper 1982 Ladder
15	912 Shallowford Road	1960	1985 Pumper
16	3423 Lupton Drive	1971	1978 Pumper 1973 Ladder 1984 Rescue Extrication
17	628 Signal Mountain Rd.	1969	1987 Pumper-Telesquirt
19	5400 Brunswick Lane	1978	1976 Pumper
20	3003 Cummings Hwy.	1980	1972 Pumper
21	7700 E. Brainerd Rd.	1977	1987 Pumper-Telesquirt
22	6144 Dayton Blvd.	1980	1969 Pumper

Map Number 1

Recommendations:

NOTE: See Table 2 and Map Number 2 for a recap and illustration of the first eight recommendations.

1. Eliminate the duplications of the stations in the downtown area by consolidating Stations 1, 2 and 7 into a new Downtown Station that would be centrally located for the area. An almost exact central location would be the old St. John's Hotel site on Market Street. If that location isn't possible, then the city should seek another site within a 3 block area of the old St. John's Hotel. If that is not possible, then as a last resort, Station 2's current location is central enough to qualify as the new station site.
2. Abandon and sell the sites at Stations 1, 7 and 2, if Station 2 is not the site for the new station.
3. Place two engine companies and a ladder company at the new Downtown Station. Given the traffic volume of Stations 1, 2, and 7, it is not practical and maybe not even possible to cover the downtown area with one engine and one ladder company.
4. Close Station 11 and sell the site. Station 11's service district will be covered by Stations 5, 9 and 13 and also through interlocal provisions as addressed in Chapter 4. This eliminates the almost 100% duplication or lost service area of Station 11.
5. Relocate Station 15 to a site in the Wilcox and Shallowford/Moore Road area and sell the current site of Station 15. This eliminates most of the current duplication and places Station 15 for better access to provide major highway coverage.
6. In addition to the new Downtown Station, locate ladder companies (Quints with ladder length appropriate for the service area as equipment replacement occurs) at Stations 6, 13, 14, and 19. See Map number 2 for a full illustration

8. As vehicle replacement occurs (see Chapter 5), replace the pumpers with Quints (pumper\ladder combined units) at Stations 8, 17, 20, 21, 22. This will enhance the ability of each of these companies, broaden their coverage and provide full engine and half a ladder credit for ISO rating purposes.
9. Create a design committee composed of fire department personnel and contract with an architect to design a model fire station that would have interchangeable components that could be adjusted to accommodate single or multiple companies. This would standardize fire station design for all new fire stations.
10. When the annexation of the Ooltewah area and the VAPP property become final, the city should conduct a station location study factoring in any commitments made in a plan of services (related to annexation), the integrity of the city's ISO rating and, above all, the need to provide its newest citizens with the same high quality fire protection services as received by existing citizens. This recommendation, while focusing on the Ooltewah area and the VAPP property would apply to all future annexation actions by the City of Chattanooga.

Table 2

STATION	ACTION	E	L	S	C	HM	W	STATIONS AFTER CHANGE	NOTES
1	Consolidate to new downtown station								
2	Consolidate to new downtown station								
4	No Change	1						1	
5	Move Ladder to Station 6	1						1	
6	No Change	1	1					1	
7	Consolidate to new downtown station								
8	No Change	1*					1	1	
9	No Change	1						1	
10	No Change	1*						1	
11	Close								
12	No Change	1						1	
13	No Change	1	1					1	
14	No Change	1	1				1	1	
15	Relocate to Wilcox Shallowford/Moore Rd.	1						1	
16	No Change	1						1	
17	No Change	1*					1	1	
19	No Change	1	1					1	
20	No Change	1*					1	1	
21	No Change	1*						1	
22	No Change	1*						1	
New downtown station	Construction	2	1					1	

Key: E=Engine L=Ladder S=Squad C=Chief HM=Hazardous Materials Unit W=Tanker *=Quints

Map Number 2

Chapter 2 - Staffing

The Chattanooga Fire Department is understaffed. There are not enough fire fighters to adequately staff the stations and companies. Over time, the city has grown in population, land mass, and assessed value of property protected, while the fire department has been shrinking in size. Fundamental concepts such as staffing, training, fire station location, equipment, use of current technology, organizational structure and effective management and leadership must all be considered before adequate staffing can be determined.

To solve the staffing shortage, three things must be done. First, is establishing the minimum number of personnel needed to operate the three basic operating teams of the fire department, which are: (1) an engine company, (2) a truck company (*sometimes referred to as a ladder company)*, and (3) a squad company. Second, is taking an eagle's eye view of the city to determine the most effective places to put fire stations so that the fewest number of companies can be operated without compromising any degree of fire protection (which is addressed in Chapter 1 of this study). And, third, we must insure that there is adequate staff on duty every day to operate all required companies at least at the minimum staffing level.

The fire department has set the minimum staffing requirements as outlined in the following chart.

Current Budgeted Staffing

(Actual daily staffing falls far below these numbers.)

Type of Company	Number	Minimum Staff	Total
Engine Company	20	4	80
Ladder Company	5	5	25
Squad Company	1	4	4
Total			109

Based on a review of the 1996 calender year, the average full staffing of all in-service companies was well below the minimums in this chart. On no single day in 1996 did the fire department meet these minimums. Very few individual fire companies met these minimums. For example, the two companies with the best average staffing (Squad 1 & Ladder 7) were only fully staffed 60% of the time. The worst situation (Ladder 3) was *never* fully staffed. As is readily apparent, minimum staffing is a critical issue. The logical conclusion is that these established levels are not "minimums." Instead, they are idealistic goals which probably cannot be reached and definitely should not be labeled as minimum staffing requirements.

Based on current practice, OSHA requirements, effective operational usage of personnel, and specific Chattanooga observations, the **minimum** number of on-duty personnel for each type of fire company **must be** as outlined in the following chart. These numbers are both realistic and obtainable.

Recommended Minimum Daily Staffing

(The absolute minimum number of fire fighters on duty on a given day.)

Type of Company	Number	Minimum Staff	Total
Engine Company	18	4	72
Ladder Company	5	4	20
Squad Company	2	3	6
Total			98

This number (98) is the absolute minimum number of fire fighters that **must be on duty** on any given day to insure that the City of Chattanooga is properly protected. These recommendations are contingent upon the approval and implementation of the Fire Station Location Study chapter of this report, which would reduce the number of active engine companies from 20 (current) to the 18 recommended as shown on the above chart.

If the Chattanooga Fire Department continues to operate as it is now, to adequately staff the fire department would require the hiring of 51 additional fire fighters. Understaffing is a critical issue and must be the number one priority of the City of Chattanooga to correct. If the city implements the recommendations of this study, the city would still need to hire 13 additional fire fighters. The difference between 13 and 51 is 38. Not having to hire 38 fire fighters to meet minimum staffing requirements represents a significant savings.

- (Existing minimum staffing levels and fire department operations)
-
    - Current Staffing (109 x 3)= 327
      Additional fire fighters needed to cover leave (327 /6.4) = 51
      Total staffing needed under present conditions 378
      Current staffing 327
      Current staffing shortage 51

  (Proposed minimum staffing levels and fire department operations)

    - Proposed Staffing (98 x 3) 294
    - Additional fire fighters needed to cover leave (294 / 6.4)= 46
    - Total 340
    - Existing staff level 327
    - Additional staff needed 13

Obviously, there is no way to address this problem that will totally eliminate the need to hire some additional fire fighters, without compromising the safety of the city. However, the proposed alternative will substantially reduce the number from the 51 mentioned previously to only 13, without any compromise in safety. In fact, when more effective management of the leave time of fire fighters is taken into consideration, both the fire fighters and the citizens are safer due to the better staffing of individual fire companies on a day-to-day basis.

Vacations, sick leave and training time had not been factored into the current minimum staffing formula. For every 6.4 fire fighters, there must be one additional fire fighter just to work the leave time for the others. This is why this 6.4 number is factored into the illustration above for both the current staffing need and the proposed staffing level. When leave and training are factored into this formula, there must be more fire fighters on the payroll for each shift, so that a minimum of 98 fire fighters may be on duty. A very strict management policy must be adopted so that no more than 16 fire fighters are off duty on any shift. The third internal component of the staffing realignment would be for the fire department to do a better job in managing fire fighters' days off. The fire chief is well aware of the impact that having large numbers of fire fighters off the job on the same day can affect staffing. Leave should be scheduled in such a way as to **never** allow more fire fighters to take the day off so that staffing falls below the 98 minimum number needed to safely operate the fire department. By proper management of the leave time of fire fighters, which was not previously attempted, daily staffing levels can be brought up significantly. It is estimated that with excellent management of the leave of fire fighters, up to 12 man years could be added to the annual fire department staffing.

Even with all of the internal adjustments that can be made, reducing active engine companies, managing leave, and locating fire stations properly, the fire department operations division is still understaffed by 13 people. The only way to solve this problem is the addition of 13 more fire fighter positions to the fire department budget. It is strongly recommended that this be done as soon as possible.

The job of a fire fighter is very physically demanding. In a recent task analysis done by the firm of Landy Jacobs and Associates, they list over ten pages of physical tasks that must be performed by the fire fighter while on duty. The essential duties of a fire fighter are physical in nature. Therefore, it is very important for the safety of the fire fighter and for the protection of the citizens that he/she serves, that the fire fighter be able to perform these essential functions every day that the fire fighter is on duty. When these skills diminish due to poor physical condition, the risk to the safety of the fire fighter increases. With diminished skills, the fire fighter cannot effectively protect the lives, property, and environment that is the core of the job.

Without annual physical ability tests and a mandatory retirement age, there can never be any assurance that the personnel of the fire department can perform the essential functions for which they were hired.

Recommendations:

1. Set the minimum staff levels for engine companies at 4, ladder companies at 4, and squads at 3. Each company including squads will have a company officer as a supervisor. **At *no* time should actual manpower fall below these levels.**
2. Implement the fire station location study so there will be eighteen (18) engine companies, five (5) ladder companies and two (2) squads staffed with minimum crews and in operation within the city.
3. Hire 13 additional fire fighters so that even with all leave (sick & vacation) the minimum number of fire fighters (98) will be on duty each day.
4. Manage leave better so that no more than 16 fire fighters are off duty on any shift.
5. Implement mandatory retirement at age 65 for all fire department employees. This will comply with both state and federal law for public safety employees.
6. Annual ability testing should be conducted for all fire department employees to determine if they can perform their essential job functions.

Chapter 3 - Organization Structure

The organization structure of the Chattanooga Fire Department is totally reversed. There are more officers than fire fighters. The entire structure is top heavy. In fact, there are 179 officers to only 169 fire fighters. This has happened due to some very antique provisions in the city charter which require certain positions to be in every fire company. While on paper these provisions are being fulfilled, in practice, lieutenants are not officers but drivers and operators of fire apparatus. This entire structure should be abolished and replaced with salary ranks and grades that reflect reality. To illustrate the point, the following chart reflects the number of individuals in each rank in the fire department.

POSITION TITLE	
Fire Chief	1
Deputy Chief	2
Assistant Chief	7
Fire Commanders	14
Fire Captains	62
Fire Lieutenants	93
Relief Drivers	80
Fire Privates	89

It does not take a fire department management consultant to conclude that there are too many officers and not enough workers. Much of this has to do with name only. For instance, fire commanders are nothing except over-graded captains. It is important to have a high level of versatility within a company regardless of rank. Everyone who has been a fire fighter for more than three years should be required to be able to drive the apparatus and operate the pump occasionally, when necessary. In fact, ideally all fire fighters within the company should be Fire Fighter 3's as detailed in the proposed career ladder.

As part of the salary study that is currently being conducted, the fire department should be reorganized as recommended herein.

Recommended Organization Structure and Career Ladder

REMARKS	CAREER LADDER	Number of Positions	Time Required in rank before promotion.
Outward Focus	Chief	1	
Internal Focus	Deputy Chief	1	
Operations Fire Prevention Training Support Services	Division Commanders	4	
Geographic based, team management. East (5 Stations) Central (7 Stations) North (5 Stations)	District Commanders	6 (two for each district)	
Qualifications may vary depending on assignment.	Staff Officer	As Needed	
Must be certified Fire Instructor 1 & Fire Officer 2	Company Officer		

Must be State certified Fire Fighter 2 and an EMT	FF2		1 yr.
Must be State certified Fire Fighter 1	FF1		1 yr.
Will be basic Fire Fighter and First Responder trained at fire academy.	Probationary Fire Fighter		1 yr. (May be extended to no more than 2 years.)
Entry requirements.	Civilian		hire date

Details of Rank and Organizational Structure

Chief

The Fire Chief sets the tone and pace for the fire department. The Chief establishes the direction of the department in two ways. First, the Fire Chief should develop a master plan for the department and establish goals and deadlines for these planned activities. The Chief should never lose sight of these goals and should choose and assign people to carry them out. The Fire Chief should be able to explain and promote these goals so the personnel of the department can "see" the Chief's vision for the department. Second, the Fire Chief should lead by example. The Fire Chief should be the fire departments' head cheerleader, always encouraging, coaxing, and developing the members of the department.

The focus of the Fire Chief should be outward. The Chief should deal with the Mayor and staff, the Council, and other department heads. The Chief should be an active member of professional organizations and attend their meetings to see what other fire departments are doing. The Chief should spend some time each month speaking at various public meetings in the city so that the Chief may tell the public about the fire department and listen carefully for feed-back.

Deputy Chief

The Fire Chief should have a Deputy Chief, who can serve as the Fire Chief's "chief of staff." The Deputy Chief should have an internal focus. A vast majority of the Deputy Chief's time should be spent in dealing with the internal, non-recurring problems that are continually presented to the fire department. The Deputy Chief should be the Fire Chief's most trusted assistant and always the Chief's personal selection. The Deputy Chief should be able to act and speak for the Fire Chief. Internally, it should be recognized by all personnel that it would be very rare indeed if an appeal of the Deputy Chief's decision would be overturned by the Fire Chief.

The Deputy Chief will be the clear second-in-command in the fire department. In the absence of the Fire Chief, the Deputy Chief is in charge.

Division Commanders

The fire department will be divided into four major divisions, each headed by a Division Commander. These divisions will be Operations, Fire Prevention, Training, and Support Services.

- *Operations Division* - The Operations Division is the largest division of the fire department. It is the division that delivers the vast majority of services directly to the public. These services are fire attack, pre-planning, emergency medical care, rescue, and other life, property, and environment saving operations. The Operations Division Commander should have a total commitment to high quality customer service. This individual should be driven with a desire to insure that the fire department is in a total state of readiness at all times to deliver fire suppression, rescue, EMS, and other life and property saving services to the citizens of the city. The Operations Division Commander will have approximately 85% of the total personnel of the fire department in the Operations Division. Therefore, it will be imperative that the Operations Division Commander have the people skills to both motivate and discipline these employees.
- *Fire Prevention Division -* The Fire Prevention Division provides inspection, plans review, arson investigation, records management, and internal affairs services. Some of these services are provided directly to the public, and some are provided as internal support to the fire department operation. The Fire Prevention Division Commander should have a background in codes enforcement and investigations. This individual should have very good "selling" skills. Code enforcement is much more effective when builders, owners, and contractors are convinced of the long-term public benefits of built-in fire protection rather than being forced to comply with the code. The division's goal should be 100% compliance. This is not a division that should be commanded by someone who gives up easily.
- *Training Division -* The Training Division is critical to the success of the fire department. It is here that new recruits are taught the basics, annual in-service training is conducted to keep all skills current, new skills are taught as fire fighters advance up the promotional ladder, specialized skills are taught as needed, and fire fighters are prepared for advancement to officers and leaders of the fire department. The Training Division Commander should be highly trained and skilled in firefighting technology so that the Training Division Commander may have the respect of the personnel of the department. The Training Division Commander should also have a good formal education and be a strong advocate and promoter of education and training and be a very capable and motivating trainer. The Training Division Commander should develop and implement, with the approval of the Fire Chief, a strong mandatory training curriculum for the fire department that insures that no individual becomes complacent in his/her job of protecting the lives, property, and environment of the citizens of your city.

obvious. The Support Services Division Commander should be a person who can take the long view, should have a keen eye for detail, and have a high sense of accountability.

District Commanders

This portion of the career ladder differs dramatically from the current organizational structure. Currently, there are two Assistant Chiefs on duty for each 24 hour shift. Each of these Assistant Chiefs has one-half of the city on his/her shift (his/her shift has one-third of the fire department operations division) so this Assistant Chief commands one-sixth of the operations division. This Assistant Chief sees the same people each day that he/she works. There is very little working relationship with the other Assistant Chief on his/her shift and almost no working relationship to the other four Assistant Chiefs who are on other shifts. These individuals are exactly that, individuals. They are not a team and they serve almost no management function except incident command. Incident command represents less than 2% of their time. The present organizational structure contributes to having inconsistent methods of job performance. It does not help to solve the flow of information to the fire fighters and in many instances contributes to multiple interpretations and implementations of policy.

The present Assistant Chiefs are in command of a time frame (their shift) and feel little or no responsibility to the larger picture of fire department operations. As long as things go well on "their shift" they have few, if any, concerns for the overall welfare of the fire department as a whole. They are unable to contribute to the career ladder promotions process since they supervise only one sixth of the operations division and tend to be defensive of "the people on my shift." The Chattanooga Fire Department should not be unduly criticized for this style of management operation since the vast majority of fire departments in Tennessee and around the country operate in this manner. Geographic Based Management places more authority, accountability, and tends to create better managers than shift based management. Police departments have long used geographic based management in the form of precincts. Each precinct is commanded by a Captain who has full authority and responsibility to run operations within his/her area. Just because this has not been a fire service tradition does not mean that it is a bad management idea. Miami-Dade County has implemented this territory or geographic based management in their fire department and Chief Brown is very happy with its success.

If this concept of geographic based management is coupled with a team management approach, an even stronger management structure can be built. When two individuals team up to handle the responsibilities of running a geographic division of the city, the management structure is further strengthened. Under this new system, as people are promoted to District Commanders, they can be paired up with an experienced District Commander to take full advantage of the mentoring process and of the experience and wisdom that the older District Commander has accumulated. They can relieve each other for vacations and sick time, and can confer with each other on handling personnel problems to insure that personality conflicts are not the basis of problems. They can each support their strong points and weak points using the other person's strength.

A District Commander answers to the Operations Division Commander. Each District Commander has a certain geographic portion of the city over which he/she has total operational command. Each district (total of three districts: East, Central, North) has two District Commanders who make up the management team for that district. Each District Commander works four 10 hour days (7:00 a.m. to 5:30 p.m.) and is on-call on the nights that he/she works and alternating Wednesdays. One District Commander works Sunday through Wednesday, and the other District Commander works Wednesday through Saturday. For the three days the District Commander is off duty, he/she is not on call. On Wednesday of each week, both District Commanders are on duty. This allows at least one day per week where multi-directional communication can occur: up, down, and lateral.

The successful District Commander will be a highly motivated, hard charging, fire-rescue tech, with good people skills, and a significant amount of management and administrative skills. Only in rare circumstances would the District Commander be in command at an incident. Instead, the District Commander should be able to coach the Company Officers to a status of operational self-sufficiency.

Staff Officers

A Staff Officer would be a person who would be assigned to the headquarters operation for a special function, assignment, or duty. This could be a permanent or temporary assignment. This person would be paid at or near the level of the entry level of a District Commander. This pay grade is designed to compensate and attract individuals from the 24-hour duty cycle to the 8 hours per day, 40-hour week duty cycle. Staff officers may be given a wide variety of responsibilities and will report directly to the Fire Chief or the Deputy Fire Chief.

Company Officer

The Company Officer is the single most important rank in the fire department. It is at this level that the actual operations of the fire department will be delivered to the citizens in a team approach. This individual will be expected to be a field commander, a station commander, a front line supervisor, a problem solver, a trouble shooter, a mediator, and the eyes and ears of the fire department. The success or failure of almost every day-to-day function of the fire department will be in the hands of this individual, as well it should. After all, this will be the ranking individual who, along with a small group of fire fighters, will be the first line of defense between the public

and death or disaster. The Company Officer will be the incident commander at 95% of the incidents to which he/she responds as first due officer. The Company Officer will be the training officer for all training conducted in the fire station.

station training for the people assigned to him/her. The Company Officer should have good leadership skills and willingness to be a team player. Supervisory and other administrative skills can be taught to a Company Officer, but they should exhibit an aptitude of willingness to learn these skills and to follow and apply the rules to everyone in a fair and unbiased manner.

Fire Fighter 3 (FF3)

The Fire Fighter 3 is the highest skill level in the fire department. They must be able to perform all the normal day-to-day skills required in a modern fire department. These skills should include such things as fire fighting, driving and operating all equipment assigned to their station, and functioning as Acting Company Officer when the Company Officer is not on duty. While the Fire Fighter 3 is not expected to be an expert in everything, he/she should have a good general knowledge of all of the routine assignments given to a fire company on a daily basis. These should include a familiarity with building construction, water systems, street layouts, pumper and ladder company operations, emergency medical care, hose lays, hazardous materials, confined space rescue, extrication, fire streams, fire ground safety, salvage and overhaul, basic skills in public fire education and public relations, basic operation of the incident command system, and familiarity with the operational guidelines of the fire department.

The Fire Fighter 3 should be able to function as a team leader. That is, to be able to take a small group of fire fighters (2-3) and execute a tactic on command as part of an overall incident strategy. The Fire Fighter 3 should be able to operate as a sector commander on a moderate size incident.

Fire Fighter 2 (FF2)

The Fire Fighter 2 is the working level of the fire department. At this level, the employee should have the ability to function well at most ordinary incidents. The Fire Fighter 2 should have mastered the basic skills and with experience should be able to perform well at more complex incidents. The Fire Fighter 2 should be fully capable of operating as a member of a tactical team under the command of a higher ranking firefighter. The Fire Fighter 2 must become an EMT before advancing to the next rank. *Note - There may be some current fire fighters who will not have the basic skills that the new recruits from 1998 on up will possess upon graduation from basic fire recruit training.*

Fire Fighter 1 (FF1)

The Fire Fighter 1 has learned all of the basic skills of a fire fighter but has very limited experience. The Fire Fighter 1 should not be expected to fully function on his/her own or be capable of taking independent action. The Fire Fighter 1 must always operate as part of a team with at least one other higher ranking fire fighter present. The Fire Fighter 1 lacks experience, and therefore, may not be expected to exercise good judgement about many complex incident operations.

Probationary Fire Fighter

The Probationary Fire Fighter is in the learning mode. By the time they are assigned to a fire company, they will have graduated from the basic fire academy and will be a first responder. These skills should immediately be tested and used in the fire company under the careful and watchful supervision of a higher ranking and more experienced fire fighter. Under ideal circumstances, the probationary fire fighter would be "given" to a Fire Fighter 3 for the remainder of their probationary period. This Fire Fighter 3 would teach, mentor, coach, and correct the Probationary Fire Fighter under the watchful guidance of the Company Officer.

Recommendations:

1. Create one new position of Division Commander and implement the new fire department organizational structure as outlined in the detail of organizational structure and career ladder.
2. The current rank structure of the fire department should be abolished and a new rank structure and career path should be adopted as recommended by the Career Path Chart included in this chapter.
3. The fire department should be regraded for the salary compensation study based on the career path and job responsibilities as recommended in this chapter and not be graded on its current ranks or responsibilities.

Chapter 4 - Interlocal Cooperation

No living organism is an island unto itself. Every person, every city (often considered a living organism) and yes, every fire department often perceive themselves as totally self-sufficient, without need of support from anyone or any entity. However, every individual, every city, and yes, every fire department will eventually encounter a situation they cannot handle by themselves. Individuals overcome these situations with the assistance of family and friends, and cities overcome these situations with the assistance of the state and federal government and sometimes the assistance of other cities. Fire departments overcome these situations through a vehicle commonly known as "mutual aid." The use of mutual aid does not indicate a department is weak or ineffective, but rather it is smart and is maximizing its resources, both locally and regionally. Most cities, including Chattanooga, are not physically nor financially able to have the maximum amount of equipment and manpower to meet and deal with every situation. Few departments, including Chattanooga, can respond to or sustain operations at anything larger than a third alarm fire.

Mutual aid is the legal terminology, under Tennessee law, that authorizes a city to request assistance from another city or to respond to another city's request for assistance. This authority is found in the Interlocal Cooperation Act (Tennessee Code Annotated 12-9-101 et.seq.) and the Local Government Emergency Assistance Act (Tennessee Code Annotated 58-2-601). Cities, counties and other fire service entities have created mutual aid associations, which are constructed around the Interlocal Cooperation Act and are bound together with written mutual aid agreements. These agreements inventory the equipment and manpower of each member and then establish a logical rationale for response. The Chattanooga area has a very large mutual aid association in the Tri-State Mutual Aid Association. This association includes approximately 7 counties and 35 fire and rescue departments, of which 20 are city departments, but it does not include the City of Chattanooga. The largest department with the largest residential area, the largest commercial area and the largest industrial area has never been a part of the Tri-State Mutual Aid Association or any other mutual aid agreement.

It is acknowledged that Chattanooga has concerns regarding its liability exposure in responding to mutual aid requests in Georgia. This is an appropriate position for the city to take, since this study is not suggesting the city make a blind entry into a mutual aid agreement and strongly recommends the City Attorney be closely consulted during this decision-making process. Both Tennessee and Georgia have interlocal cooperation laws that allow mutual aid agreements with local governments in other states, however, neither state takes the same approach to tort liability. They both have tort laws, but Tennessee's is very extensive, removing a substantial amount of local governments' sovereign immunity and substituting dollar limits for the newly created exposures. Georgia on the other hand still retains a significant degree of sovereign immunity for local governments, but has not established dollar limits for exposure other than the amount of insurance a local government has purchased. Therefore, if Chattanooga is involved in a liability claim in Tennessee, its maximum limit of exposure under Tennessee law would be $350,000. If Chattanooga were involved in a liability claim in Georgia, its maximum limit of exposure under Georgia law would be its limit of insurance for that type of claim. Since Chattanooga is self-funded, this may be a little more complicated than it would be for other cities, but it should be investigated and Chattanooga should consider entering the Tri-State Association. The demands, in terms of actually responding to calls would be minimal, the return, in terms of having an extensive supply of manpower and equipment for that major disaster, would be significant. Chattanooga's participation in a mutual aid association is to everyone's advantage. It is neighbor helping neighbor in times of disaster, not in times of routine activity. For example, in 1997 East Ridge responded to 7 mutual aid calls and made 5 mutual aid requests. As illustrated, this is not a high occurrence issue but is an important issue. Chattanooga's entry into a mutual aid association will place it in the company of Metro Nashville, Kingsport, Johnson City, and Cleveland, who are members of their respective associations.

In addition to the general mutual aid agreements, in which a fire department has to request assistance before assistance can be provided, there is a mechanism called automatic aid. In an automatic aid program, a fire department of one city will automatically respond to a fire call in an adjacent city. This type of arrangement is often used to eliminate coverage duplication and to lessen the cost of providing services. Automatic aid agreements usually occur between cities that have common boundary lines, as is the case between Chattanooga and East Ridge and Chattanooga and Red Bank. Automatic aid is often a reciprocal arrangement in which two or more cities automatically respond to each others calls. Chattanooga is currently not participating in any automatic aid agreements.

Recommendations:

1. Chattanooga should join and become an active member in the Tri-State Mutual Aid Association. Chattanooga would be the largest department in the association and would benefit the other members and would itself be benefited by its membership.
2. Chattanooga should enter into an automatic aid agreement with the City of East Ridge, in which East Ridge would automatically respond with an engine company to the service district of Station 11, which has been recommended for closing in Chapter One. This enhances coverage for this area of Chattanooga without having to provide a fire station. See Map Number 3.
3. Chattanooga should enter into an automatic aid agreement with the City of East Ridge, in which Chattanooga would automatically respond with a ladder company to all ladder company calls on the eastern end of EastRidge. This allows East Ridge to avoid the cost of a ladder truck for the near future. See Map Number 3.
4. Chattanooga should enter into an automatic aid agreement with the City of Red Bank, in which Red Bank would automatically respond to all of the Chattanooga city limits outside the service area of fire station 17 and west of the city limits of Red Bank. This will provide those Chattanooga residents the same quality of service they would receive if they were within the service area of a Chattanooga fire district, without Chattanooga having to bear the cost of building and staffing another fire station. This truly maximizes Chattanooga taxpayer dollars, because at least 50 % of a new station's service area would be outside the city limits of Chattanooga, either in an unincorporated area or

either Stations 17, 16 or 12 depending on the appropriateness of the call. This would save the City of Red Bank the cost of a station and staff on the south end of Red Bank. In fact, Red Bank would be able to operate with one station. See Map Number 3.

6. The City of Chattanooga should follow the recommendations in Chapter Five regarding the purchase of Quints as a replacement for engine companies in stations on the edge of the city. If this recommendation is accepted, Red Bank should agree to pay for the Quint for Station 17 in return for a 20 year automatic aid agreement for ladder company coverage on the south end of Red Bank from Station 17 and on the north end of Red Bank from Station 19. See Map Number 3. If recommendations 5 and 6 are implemented, the City of Red Bank's ISO rating should definitely reduce from a 5 to a 4 and quite possibly to a 3. This projection is based on a new ISO evaluation with all factors supporting the current rating of 5 remaining stable.
7. Chattanooga, with its reserve fleet, should coordinate with the other fire departments (cities) in Hamilton County to provide those departments with their reserve units. This would significantly reduce the overall number of reserve units required for all of the fire departments.
8. Chattanooga should thoroughly investigate the pros and cons of becoming a regional maintenance center for fire apparatus.

Map Number 3

Chapter 5 - Fire Appartus Replacement

The City of Chattanooga has not had a systematic approach for replacing fire apparatus. As a result, the fire apparatus fleet has gotten very old and in many cases almost obsolete. Within this current fiscal year, the city has purchased five engines (pumpers) and have budgeted another $500,000 for apparatus for next year. While this is commendable and may be necessary to correct some of the obsolescence problems, it is not an organized approach to fire apparatus replacement. This method simply continues large fluctuation practices of the past. Purchases of large amounts of apparatus now means that all of that apparatus will end its service life, its technological life and its economical life at the same time and will place the same equipment and financial burdens on a future administration.

The Chattanooga Fire Department needs an organized method for the replacement of fire apparatus which will effectively level out the replacement activity and costs associated with the purchase and replacement of fire apparatus. An organized method (policy) should do three things:

1. Develop a replacement schedule for fire apparatus.
2. Establish a fire apparatus replacement fund.
3. Develop a funding mechanism that will level replacement costs.

If these three things are accomplished, capital outlay requirements for the replacement of fire apparatus will be reduced to a minimum. Only when the fleet is expanded should it be necessary to go to the capital budget for funding for fire apparatus.

To implement these three policy elements, the city should recognize that fire apparatus, like other equipment has a definite useful life, which is generally 20 years for engines (pumpers). However, other factors such as the high number of runs per day, excessive number of pump hours and high maintenance costs should be considered. Good maintenance management and equipment rotation from busy fire stations to stations with less activity should insure that no apparatus should have to be replaced before the end of its projected useful life. Other fire apparatus such as tankers, aerial and ladder trucks should be replaced after 25 years, subject to the same factors as above in high usage situations. Vehicles such as sedans, station wagons, pick-up trucks, and other common vehicles should follow the same replacement schedule as similar vehicles within the city.

***NOTE: This chapter is an update of the Fire Department Fire Apparatus Study prepared by MTAS for the City of Chattanooga in 1993.**

For the second policy element the city should establish, by ordinance, a Fire Apparatus Replacement Fund within the fire department. This should be an interest bearing, permanent

fund used exclusively for the cost of replacing fire apparatus. The fund should be capitalized to

the current year. This would require an appropriation of $1,355,133. In addition, all apparatus that is currently beyond its useful life should be replaced. This will require approximately $2,250,000 in funding.

Finally, an annual sum sufficient to fund that year's depreciation of all current fire apparatus should be a line item within the fire department budget and should be deposited to the Fire Department Fire Apparatus Replacement Fund Account. In this manner, level costing of fire apparatus will be insured. See Table 3 for a complete overview of replacement costs. This chart addresses only first line fire apparatus, not reserve vehicles. This policy will eliminate the political overtones connected with the budget process. Every year's budget will contribute to the cost of vehicle replacement instead of having some years with large capital expenditures on fire apparatus and some years with nothing.

With careful management of life cycle replacements, an equipment rotation policy, and a phase-in funding of the current balance of the accumulated depreciation over a fixed period, such as five years, all capital replacement costs of the fire department could be paid from this Replacement Fund.

Without such a funding mechanism, the public budgeting process is abnormally affected by the requests in varying years for the cost of fire apparatus replacement. Professional managers from both within and without the fire service recognize the need to establish these types of vehicle replacement funds so that the cyclical nature of fire department budget requests are reduced. The political pressures associated with budgeting for the replacement of fire apparatus in particular years is removed and this becomes a purely management decision.

The simplest method of funding this cost after the initial plan has been funded to current requirements is to provide a line item in the fire department budget which will fund the annual depreciation of the fleet averaged out over the average useful life of the fleet.

Recommendations:

1. Review all apparatus from the attached chart that has exceeded its recommended useful life. Determine if all of this apparatus is needed. Eliminate from the list all apparatus which has no operational usefulness

apparatus fleet. While this figure may vary from year to year, if it is figured on the current fleet, the annual cost would be $242,000.

4. The only other item that remains to make the vehicle replacement fund totally self-sustaining is to fully fund the accumulated depreciation to date. This amount is $1,355,133.
5. The City of Chattanooga should pass an ordinance setting up this permanent fund and restricting its use to the replacement of fire apparatus.
6. The City of Chattanooga Fire Department should develop a standard set of both body and chassis specifications for the various types of fire apparatus used by the department. If all equipment, over time, was purchased using these specifications, much standardization of purchasing procedures and fire fighter training would be accomplished.
7. All older apparatus and vehicles that are beyond their useful service life, except for a small group of reserve apparatus, should be disposed of in the approved manner. All other surplus fire equipment should be included in this sale. The money from the sale of this equipment should be applied to the reduction of the capital costs associated with the implementation of this program.

Table Number 3

Chapter 6 - Emergency Medical Care

The Chattanooga Fire Department is in the business of providing emergency medical care. Currently, there are 20 fire station locations (with 26 staffed companies) around the city where fire apparatus and fire fighters are assigned. Even after the implementation of the fire station location study, there will still be 17 locations with 25 staffed companies. It only stands to reason that with that many locations the odds of having emergency medical care provided within 4 to 6 minutes of requesting help are greatly increased over having only 3 or 4 locations as the ambulance service provides.

This 4 to 6 minute response time is the key to life and death in high priority medical situations. In cases of heart attack, arterial bleeding, no breathing, and related cases, if emergency medical care is not started within the 4 to 6 minute window, death or permanent brain damage may result. No department of city government is better positioned nor more strategically located to provide this emergency medical care. The fire department already has individuals trained at various levels as emergency care providers -- from the basic level of emergency first responders, to emergency medical technicians (EMTs), to paramedics. However, the department provides emergency medical care on a somewhat inconsistent basis except at the first responder level. Every location has at least one trained first responder per station per shift. This may sound good, but first responder services generally provide very limited life support. All stations need one or more EMTs per shift to provide an expanded level of basic life support to the citizens of Chattanooga. Even EMTs are limited in their ability to administer most drugs and some life saving procedures that can be performed by a paramedic.

Real life saving is performed while the emergency medical services (EMS) units and people are still on the scene. Transportation takes a second priority. With that in mind, there are several alternatives that the fire department may want to consider. First, the department must decide if it really wants to be in the emergency medical care business at all. The department is now, on a limited basis, but it could just leave this service up to the existing ambulance provider. However, if the department makes this choice, it must be willing to concede that the citizens of Chattanooga will have no higher level of emergency medical service than the other citizens of the county, outside the city.

EMS delivery can and should be provided by the fire service. The number and intensity of fires has decreased over time with improvements in technology like smoke detectors and fast response sprinkler heads. Modern building codes and better enforcement and inspection have also contributed to the reduced number of working fires. However, due to the nature of fire protection, there still must be the same commitment of manpower and apparatus regardless of the call volume level. Therefore, it stands to reason that with the extra time available, the fire

department has the time to train for and deliver emergency medical care to the community at a level that can contribute to and provide the saving of countless lives, with no reduction in the level of fire protection coverage for the city. This is a win-win situation. The citizens get more and better service, and the cost is nominal.

The cost of providing this service is nominal and should be recoverable. The nominal costs are for: (1) additional medical supplies, (2) fuel for vehicles to respond to the calls, and (3) additional wear and tear on vehicles. Each of these items should be reviewed to see what the alternatives are in each case.

Additional medical supplies is an easy problem to solve. These supplies should be restocked by the ambulance provider who in turn can bill the patient directly. The other two items, fuel and additional maintenance, can be solved in one of two ways. First, the city may elect to just absorb the cost into its annual fire department budget as a cost of doing business. It is estimated, based on other cities' experience, that this cost would be approximately $3,000 per vehicle per year. For Chattanooga, this would amount to an annual cost of approximately $75,000, ($3,000 per vehicle times 25 vehicles). Chattanooga's actual costs per apparatus may vary from this figure, but this average should be close to an average for Chattanooga. The second method would be for the ambulance provider to pay the city this $75,000 since the city is providing manpower, assistance, back-up, and in many cases first due patient care when responding with the ambulance service within the city limits.

If the current ambulance provider does not want to work with the city to restock medical supplies, and cover the cost of extra fuel and maintenance, the city should explore the use of a private ambulance service within the city to provide patient transport. It is certain, that a private ambulance service would be willing to provide these benefits to the city in turn for a contract to receive all 911 calls for an ambulance inside the city.

An intangible, but very important, benefit of providing emergency medical care will be the productivity (direct service delivery) of the fire department will be raised substantially. As this productivity increases, so will self-esteem and morale. The over-all effectiveness and readiness of the fire department will be increased and as these go up, inversely proportional, the complaints and complacency will go down.

Recommendations:

1. The Chattanooga Fire Department should continue to provide emergency medical care and all Chattanooga fire fighters should be first responders at the time they graduate from the basic fire fighter school.
2. All current Chattanooga fire fighters should be trained as first responders.
3. All current Chattanooga fire fighters should be trained as EMTs and under the new career ladder, all new ones will become EMTs before making the rank of Fire Fighter 2.
4. The department should up-grade the service to provide advanced life support by having at least one paramedic on each unit on each shift.
5. Fire fighters who become (and remain) paramedics should receive a $150 per month bonus pay.
6. The city should seek cost recovery on medical supplies, additional fuel usage and extra maintenance cost from the ambulance service provider.

Chapter 7 - Training

Training in the Chattanooga Fire Department is below standard and has not been nearly high enough on the priority list of the department. Training is the single biggest internal operational function of a fire department. Training will be the key to the success or failure of the fire department. Training not only determines how well the fire department can operate, it determines to a large extent, what the level of morale will be among the fire fighters. Training determines if the fire fighters will actually be able to save lives and property, or just be a bunch of well-intentioned bystanders at a fire scene.

There are four basic groups of training for fire departments. These are: (1) Entry level, or recruit training, used to bring new fire fighters up to the minimal level of operation; (2) In-service training, used to refresh and maintain training levels previously acquired; (3) Advancement training, used to get to higher skill levels, and (4) Specialized training.

As the fire department matures, it gets much harder to schedule and deliver training as the group gets more diverse. Chattanooga is a very mature fire department. Training must be scheduled for all existing fire fighters. Annually, as new fire fighters are recruited into the department they must be given basic recruit training. Special training sessions for pump operations, drivers, officers, and special teams must be offered. As these groups become more diverse in their levels of training, separate classes must be offered to each group. If not the more advanced groups will lose interest, and experienced fire fighters will begin to drop out of the organization but remain on the payroll.

The Training Division, with its limited staff and budget, is doing a good job. Two of the programs they deliver should be singled out for special recognition. The new recruit program is excellent, and line officers are very satisfied with the graduates from recruit school. The recruit school should be expanded so that all graduates are certified first responders. The second excellent program is the in-service video program. This program is very cost effective and a good method to deliver "canned training" to the fire stations. However, this type of training is not a substitute for hands-on training by each fire company at the training facility. In fact, it should only be used as a review of material that has been covered by more effective training methods. It would be much more effective to deliver this 40 hours of annual in-service training at a hands-on, face-to-face, class with a certified fire instructor. Chief Coppinger has mentioned setting up the in-service training as a 40-hour block in one week. During this week of intensive in-service training, the fire fighters' skills would be retuned and refreshed. Each fire fighter would get much more actual training and experience than from the video format.

On the negative side, and obvious, is the lack of aggressive management and leadership in the Training Division. This could be due to low expectations by the fire department. There are

many good ideas that could be put into effect to enhance training in the fire department, but they are not. If the fire department expects more of the Training Division, it will have no choice but to live up to those expectations.

Some duties currently assigned to the training division should be returned to the operations division where they belong. The testing of fire hose and pumpers is a time-consuming task that should be done by the pump operator and crew that will be using the pumper and hose. Who else would have a more vested interest in whether the pumper and hose pass their annual in-service and safety tests than the crew that will be using them? The time spent doing these tests by Training Division staff would be much better spent on *training.*

Much more emphasis should be placed on promoting external training. Training Division staff should be **required** to spend no less than 4 weeks per year at outside sources of training such as the National Fire Academy, The Fire Department Instructors Conference, or other such high quality sources of new ideas and resources for training of fire fighters.

There is **no current** training for fire officers. There is no leadership or development training. There is no management or supervisory training. There is no emergency vehicle operator training. Training for equipment operators (pumpers and ladders) is done on the job by the current operator. This training is totally inadequate. Training for pumper and ladder operators should be formal, consistent, and taught by the Training Division.

Recommendations:

1. The Training Division should set the standard in the fire department by having the best trained, most qualified individuals. The credentials and educational methods of the staff should be outstanding.
2. The Training Division should have at least 2 more full-time instructors, who are not included in the 13 staff positions recommended in Chapter 2.
3. Out service training should be expected of the Training Division staff and encouraged by the department for all employees.
4. Basic recruit training should be extended by whatever amount necessary to insure that all recruits are first responders upon graduation.
5. Emergency vehicle operations, pumper operations, and ladder operations classes should be offered by the Training Division.
6. All skills and classes necessary for a fire fighter to advance up the new fire department career ladder should be taught at the Training Division.
7. Officership skills and supervision principles should be taught at the Training Division.
8. The Chief of the Training Division should develop and teach a management and executive development class to senior level officers of the fire department.

Chapter 8 - Other Operational Issues

Fire Explorer Posts

The Chattanooga Fire Department should organize and sponsor several Fire Explorer Posts. These Fire Explorer Posts will benefit the fire department directly, improve the relationship with the community, and make better citizens of the people who are involved. Exploring is designed to bring career and special interest programs to young men and women 14 to 20 years of age. The Chattanooga Fire Department should organize and sponsor several Fire Explorer Posts. At the very least, the department should want to find out more about how Fire Exploring can help recruit future fire fighters, build a basis of community support for the fire department, and at the same time provide a character building, citizenship training, personal fitness and career awareness program for the young people of the community. There are some very specific fire department goals for these posts. The first of which is to expose minority youth and young people in general to the fire department to increase the number and quality of applicants. The second goal is to make the fire department more "community friendly." This will gain friends for the fire department specifically and for the City of Chattanooga, indirectly. This community friendly atmosphere may also cut down on fire station vandalism and community vandalism in general. These young people need worthwhile goals and projects to direct their attention away from less worthy uses of their time.

This program will be some additional work for both management and the fire fighters who may sponsor and operate one of these posts, but it will provide the department with a steady stream of new recruit applicants. One specific way to reward those fire fighters who choose to participate in the sponsorship of one of these posts is to reward them with a pay supplement.

Standard Pumper Specifications

The fire department should develop standard specifications for a pumper that would address the following issues:

1. Compartmentalization

    a. Standardization of layout
    b. Adequacy

2. Pump Operator Panel

    a. Location
    b. Layout

3. Crew Cab

    a. Capable of carrying 5 people
    b. Temperature Controlled - year round
    c. Communications with crew

4. Safety - meets NFPA 1500

5. Overall Size

    a. Height
    b. Width
    c. Length
    d. Weight

6. Power Train

    a. Motor - diesel recommended, minimum power stated
    b. Transmission - automatic recommended

7. Electrical System

8. Brakes

9. Fire Fighting Features

    a. Pump
        1. Size - 1500 gpm recommended

    2. Type
c. On board foam system
d. Built in or portable generator
e. Hose bed layout and attack lines
f. Plumbing
    1. Number of discharges
    2. Location of Discharges
    3. Special

10. Miscellaneous

a. Paint
b. Lettering
c. Striping
d. Emergency lighting
e. Area lighting

Standardization of Operations

The fire department, over time, has developed differences of operation between shifts, stations, and districts. These differences may not seem significant in normal day-to-day operations; but when larger emergencies occur that require different shifts, stations, or districts to work together, these different operational methods will contribute to confusion.

The most obvious example of this difference is with Station 20. Station 20 is not used in the normal response patterns and station backup system that all other stations operate under. Station 20 is treated like a separate fire department, almost as if it did not belong to the Chattanooga Fire Department.

Education Officer

The fire department needs one full-time person who would spend their time educating the public about fire safety. This would include making speeches at schools, day cares, business and industry groups and other groups as requested. The Public Fire Education Officer would develop presentations for others to deliver, manage a speakers bureau for the fire department, and respond to large incidents to function as the public information officer for the fire department.

Recommendations:

1. Establish 5 Explorer Posts at strategic locations (fire stations) around the city.
2. Develop a standard pumper specification that can be used as a generic bid specification.
3. Standard operational guidelines should be developed and implemented that should apply to all personnel, stations, districts, and shifts on an equal basis.
4. Station 20 should be treated as all other stations and participate in the standard response and back-up policies.
5. The City of Chattanooga should establish a full-time Public Education Officer within the fire department.